

REMARKS

Claims 1, 12, 14, 15, and 22-26 are pending in this application. Acknowledgement of receipt of the priority document, filed in the parent application on which this application is based, now U.S. Patent No. 6,759,739 on May 19, 2003, is respectfully requested.

Claims 1, 12, 14, 15, and 22 were amended to address various rejections under 35 U.S.C. 112, second paragraph. The language deleted from claims 14 and 15 was duplicative to the language in claim 1, and deletion of this extraneous text is not believed to change the scope of these claims. Additionally, claims 12 and 22 were amended to place these claims in independent form, incorporating all the limitations of claim 1 from which each depended.

Claims 1, 14, 15 and 22-26 stand rejected as being obvious over Kamoi (JP application 11-74649). The Examiner states that Kamoi in Figures 1 to 2d show the device of claim 1, “wherein a reinforcing sheet 6a, 6b is joined to each of the face for mounting a semiconductor element thereon and the face for external connection terminals. Applicants respectfully traverse.

With respect to claim 1:

Claim 1 recites in pertinent part “a reinforcing sheet joined to each of the face for mounting a semiconductor element thereon and the face for external connection terminals of the multilayered substrate body.” The epoxy resin adhesive layer 6a, 6b set forth in Kamoi (JP 11-74649 a), which the Examiner has regarded as a reinforcing sheet, is bonding epoxy used to bond the surface wiring conductors 3a, 3b to the insulating substrate 1a, 1b. Paragraphs [0037] and [0038] of Kamoi read as follows:

“A surficial wiring conductor 3a, 3b made of a metal foil is fixed to an insulating substrate 1a, 1b through an bonding layer 6a, 6b of cured epoxy resin. The bonding layer 6a, 6b of cured epoxy resin is made of a cured product of an epoxy resin such as an epoxy of bisphenol A type,...., and serves to join the surficial wiring conductor 3a, 3b made of a metal foil to the insulating substrate 1a, 1b for the strong bonding therebetween, and to prevent moisture from intruding from between the insulating substrate 1a, 1b and the surficial wiring conductor 3a, 3b made of a metal foil”.

(Emphasis added). As such, the epoxy resin layer 6a, 6b in Kamoi is not intended to function as a reinforcing sheet and in fact does not function as a reinforcing sheet.

Further, the solder bump 7 in Kamoi, which the Examiner has regarded as a bump-like pad, appear to be fixed on the semiconductor element 5. Claim 1 recites “the face for mounting a semiconductor element comprising pads through which the substrate is connected to the

semiconductor element to be mounted thereon.” Although the Kamoi reference does not explicitly state this, it is common practice for a bump to be formed on a semiconductor element. Kamoi describes adhering the wiring 3a to the package using epoxy, but Kamoi does not describe formation of bumps on the substrate in connection with the production process described with reference to Figure 2.

The Examiner’s recitation of the law regarding the general lack of patentability of a device which is made in one part as opposed to being made in two parts is acknowledged. This is not the case here. The Applicant’s claimed invention is not a substrate having a semiconductor chip mounted thereon, but merely the substrate. The substrate having bumps formed thereon to facilitate mounting of a semiconductor has an advantage. As explicitly stated in the instant specification, at page 7, lines 16-21, “as a result of using such bump-shaped pads, even a semiconductor element provided with electrode terminals having flat tips can be easily joined to the multilayered substrate of the present invention.” If the substrate is formed without the bumps, it would not be possible to connect a semiconductor element having electrode terminals having flat tips to the multilayered substrate.

It is therefore believed that claim 1 is not anticipated by nor obvious over Kamoi, and Applicants respectfully request reconsideration and allowance of claim 1.

With respect to claims 12 and 22:

Applicants have amended claims 12 and 22 to be in independent form. Claims 12 and 22 each recite that the reinforcing sheet is 1) in the form of a frame, and 2) is made of metal, i.e., aluminum as recited in claim 23, copper as recited in claim 24, and nickel as recited in claim 25. First, there is no showing that the layer 6a, 6b in Kamoi is in the form of a frame. Additionally, as Applicants stated in the previous Amendment filed on 08/29/2005, the epoxy binding layer for wire can not be regarded to be a metal reinforcing sheet.

It is clear from the Figure in claim 1 that the sheet 6a, 6b of Kamoi can not be metal, as sheets 6a, 6b of Kamoi contact each of the terminals 3a, 3b, 4a, and 4b. If the layer 6a, 6b of Kamoi were formed of metal, the metal would clearly short out the various terminals. As stated with respect to claim 1, the epoxy resin adhesive 6a, 6b of Kamoi (JP 11-74649a) is bonding epoxy used to bond the surface wiring conductors 3a, 3b to the insulating substrate 1a, 1b.

It is therefore believed that claims 12 and 22 are not anticipated by nor obvious over Kamoi, and Applicants respectfully request reconsideration and allowance of claims 12 and 22.

Conclusion

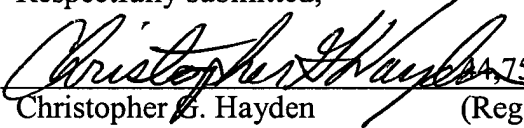
Reconsideration and allowance are respectfully requested.

Finally, Applicants note the Examiner opined that the arguments presented in the 03/08/2005 filing have been fully considered but were not persuasive. Applicants note the last amendment was filed on 08/29/2005. Applicants further note that claims 1, 14, 15 and 22-26 stand rejected in the current Office Action as being obvious over Kamoi, but that in the previous Office Action dated 05/07/2005 only claims 1, 14, and 15 stood rejected over Kamoi. Therefore, the instant rejection encompasses claims 12 and 22-26 not rejected under this same art in the Office Action dated 05/07/2005. Applicants respectfully request the Examiner contact the undersigned if the amendment filed on 08/29/2005 was in fact not received.

No fees are believed due for this response. Should any fees be deemed necessary, however, please charge the required amount to Morgan, Lewis & Bockius LLP Deposit Account No. 50-0310.

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Respectfully submitted,


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